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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,346	03/18/2002	Jeremy M Bowskill	36-1539	9243
23117	7590	10/13/2006	EXAMINER	
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			BONSHOCK, DENNIS G	
			ART UNIT	PAPER NUMBER
			2173	
DATE MAILED: 10/13/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/088,346	BOWSKILL ET AL.	
	Examiner	Art Unit	
	Dennis G. Bonshock	2173	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Final Rejection

Response to Amendment

1. It is hereby acknowledged that the following papers have been received and placed on record in the file: Amendment as received on 7-31-2006.

Claims 1-46 have been examined.

Status of Claims:

2. Claims 17-23, 25-29, 31-33, 35-37, 39, 40, and 42-46 rejected under 35 U.S.C. 102(e) as being anticipated by Filo et al., patent #6,215,498, hereinafter Filo.
3. Claims 24, 30, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Filo et al., patent #6,215,498, hereinafter Filo and Nitta, patent #5,347,306.
4. Claims 38 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Filo et al., patent #6,215,498, hereinafter Filo and Sun et al., patent #6,501,740, hereinafter Sun.
5. Claims 1-16 have been cancelled by the applicant.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 17, 20, 35, 39, 40, 43, and 45 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains

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subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Specifically, support has not been pointed toward nor could any be found for “automatically” changing the user’s mode of communication so as to accommodate the detected impairment”.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 17-23, 25-29, 31-33, 35-37, 39, 40, and 42-46 rejected under 35 U.S.C. 102(e) as being anticipated by Filo et al., patent #6,215,498, hereinafter Filo.

9. With regard to claims 17, 20, 35, 39, 40, 43, and 45, which teaches a system comprising: a mobile device for communication between a user of the mobile device and at least one other party, Filo teaches, in column 7, lines 9-15, and lines 25-36, a wearable personal computer that transmits changes in the users voice and positional data via a network to the personal computers of all other users in attendance of a virtual environment. With regard to the claims, which further teach a mobile user interface for connection with the mobile device including input means for providing the at least one

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other party with a representation of the user, Filo teaches, in column 3, lines 1-23, users being represented by avatars on the display device of users computers, the avatar's representation is based on input from position trackers connected to the user. With regard to the claims, which further teach output means for providing the user with a representation of the at least one other party, Filo teaches, in column 3, lines 4-9, a display device showing a representation of avatars (users) in the environment. With regard to the claims, which further teach detecting means for detecting an environmental or physical attribute affecting the communication by the user, Filo teaches, in column 3, lines 9-15, the avatar's representation is based on input from position trackers connected to the user. With regard to the claims, which further teach processing means for processing data indicating the environmental or physical attribute, Filo teaches, in column 7, lines 9-15, a processing of the graphics in correspondence with manipulation of the avatars. With regard to the claims, which further teach means for configuring or modifying the representation of the at least one other party to the user in dependence on the detected environmental or physical attribute, Filo teaches, in column 3, lines 1-23, updating the representation of the avatar depending on the detected visual (head and hand movement) changes. With regard to the claims, which further teach means to configure or modify the representation of the user to the at least one other party in dependence on the detected environmental or physical attribute, Filo teaches, in column 3, line 1 through column 4, line 26, several users, each being represented by an avatar in the virtual environment, affecting changes in the other users display via physical movement. With regard to the claims, which further teach a

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computer for connection with the mobile device and/or the mobile user interface including means for defining a virtual meeting space for communications between the user and the at least one other party, Filo teaches, in column 8, lines 45-51, the virtual environment including maps, documents, presentation materials, etc., and further teaches, in column 8, line 58 through column 9, line 5, avatars being moved into virtual rooms for meetings. With regard to the claims, which further teach means for controlling the representation of the user and the at least one other party to each other in dependence on the detected environmental or physical attribute, Filo teaches, in column 9, lines 14-39, avatars being presented to other users being manipulated by hand movements being detected through hand trackers. With regard to the claims further teaching detecting an environmental or physical attribute impairing the ability of the user to continue communication in a currently occurring mode and automatically changing the user's mode of communication so as to accommodate the detected impairment, Filo teaches, in column 10, line 51 through column 11, line 11, the system detecting a person from outside the environment attempting to connect with a user in a private conversation, to accommodate the user enters into a private phone call mode which disables the audio links to the VCP, and displays a phone icon next to the avatar to the other avatars.

10. With regard to claim 18, which teaches the representation of the user comprising a moving visual image, Filo teaches, in column 9, lines 35-39, the user being represented by an avatar the moves through a series of articulated joints in response to changes in motion detected by the user's hand trackers.

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11. With regard to claim 19, which teaches the representation of the user comprising an avatar, Filo teaches, in column 9, lines 35-39, the user being represented by an avatar the moves through a series of articulated joints in response to changes in motion detected by the user's hand trackers.

12. With regard to claim 21, which teaches the output means comprises a first output mode and a second output mode, and the representation of the at least one other party is modified by switching the output means from the first output modes to the second output mode, Filo teaches, in column 13, lines 5-31, and in column 3, line 1 through column 4, line 26, the user being in one of two output modes, a seated user (being represented by seated avatar) and a standing presenter (whose movements gestures are recognized for output to the others in the virtual environment).

13. With regard to claim 22, which teaches the first output mode comprising a video output, and the second output mode comprises an audio output, Filo further teaches, in column 13, lines 43-55 and column 10, lines 51-54, an output mode, where a non-immersed user is able to provide audio and/or video output to the session.

14. With regard to claim 23, further teaching means to provide the user with information alerts related to an automatically detected environmental or physical condition, Filo teaches, column 13, lines 43-55 and column 10, lines 51-54, an output mode, where a non-immersed user is able to provide live audio and/or video to the session. Filo further teaches, in column 10, line 51 through column 11, line 11, the system detecting a person from outside the environment attempting to connect with a user in a private conversation, to accommodate the user enters into a private phone call

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mode which disables the audio links to the VCP, and displays a phone icon next to the avatar to the other avatars.

15. With regard to claim 25, further teaching the environmental or physical attribute is a change in an acceleration or a force associated with a user, Filo teaches, in column 9, lines 35-39, the user being represented by an avatar the moves through a series of articulated joints in response to changes in motion detected by the user's hand trackers, where the movement from a stationary state is an acceleration of force.

16. With regard to claim 26, further teaching the environmental or physical attribute is a location, Filo teaches, in column 8, line 58 through column 9, line 5 and lines 40-60, avatars being moved into virtual rooms for meetings.

17. With regard to claim 27, further teaching the environmental or physical attribute is an attribute is a direction of changing user location, Filo teaches, in column 3, lines 15-19, correlating changes in hand and head movement, where this correlation need coincide with the direction.

18. With regard to claim 28, further teaching the environmental or physical attribute is a change in velocity, Filo teaches, in column 9, lines 35-39, the user being represented by an avatar the moves through a series of articulated joints in response to changes in motion detected by the user's hand trackers, where the movement is a velocity.

19. With regard to claim 29, further teaching the environmental or physical attribute is a movement of a user, Filo teaches, in column 9, lines 35-39, the user being represented by an avatar the moves through a series of articulated joints in response to changes in motion detected by the user's hand trackers, where the movement is a

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velocity; and in column 8, line 58 through column 9, line 5 and lines 40-60, avatars being moved into virtual rooms for meetings.

20. With regard to claim 31, further teaching the environmental or physical attribute is privacy level of the user, Filo teaches, in column 9, lines 14-22, the user being able to view number of people in the virtual room, showing him how private the conversation will be.

21. With regard to claim 32, further teaching processing means for processing data indicative of the environmental or physical attribute, Filo teaches, in column 7, lines 9-15, a processing of the graphics in correspondence with manipulation of the avatars.

22. With regard to claim 33, which teaches the processing means utilizing a classification or analysis algorithm, Filo teaches, in column 3, lines 4-19, analyzing hand and head movements and mapping them to the virtual avatar on the screen.

23. With regard to claim 36, further teaching a store for storing predetermined information corresponding to the detected environmental or physical attribute, Filo teaches, in column 3, lines 8-25, a database for storing computer information and graphics supporting the appearance of the avatars that populated the virtual work environment.

24. With regard to claims 37, 42, 44, and 46, which teach communication between the user of the mobile device and more than one other party, Filo teaches, in column 7, lines 9-15, and lines 25-36, a wearable personal computer that transmits changes in the users voice and positional data via a network to the personal computers of all other users in attendance of a virtual environment.

Claim Rejections - 35 USC § 103

25. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

26. Claims 24, 30, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Filo et al., patent #6,215,498, hereinafter Filo and Nitta, patent #5,347,306.

27. With regard to claim 24, Filo teaches, in column 3, line 1 through column 4, line 26, Several users, each being represented by an avatar in the virtual environment, affecting changes in the other users display via physical movement, but doesn't specifically teach the environmental or physical attribute is an ambient sound level. Nitta teaches, in column 3, lines 1-15, a virtual meeting place with participants being represented as avatars, similar to that of Filo, but further teaches, in column 3, lines 25-39, column 7, lines 20-26, and column 6, lines 41-50, sound being steered toward the individual determined to be speaking, where ambient noise is picked up and determined to be relevant or extraneous. It would have been obvious to one of ordinary skill in the art, having the teachings of Filo and Nitta before him at the time the invention was made to modify virtual presentation system of Filo to include ambient noise and focusing the audio to minimize the ambient sound volume. One would have been motivated to make

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such a combination because ambient noise is a part of every conversation and need be recognized as such.

28. With regard to claim 30, Filo teaches, in column 3, line 1 through column 4, line 26, Several users, each being represented by an avatar in the virtual environment, affecting changes in the other users display via physical movement, but doesn't specifically teach the environmental or physical attribute is a posture of the user. Nitta teaches, in column 3, lines 1-15, a virtual meeting place with participants being represented as avatars, similar to that of Filo, but further teaches, in column 3, lines 12-16, the users posture being a physical attribute. It would have been obvious to one of ordinary skill in the art, having the teachings of Filo and Nitta before him at the time the invention was made to modify virtual presentation system of Filo to include posture changes. One would have been motivated to make such a combination because this provides a user with a better representation of the other users in the system.

29. With regard to claim 34, Filo teaches, in column 3, line 1 through column 4, line 26, Several users, each being represented by an avatar in the virtual environment, affecting changes in the other users display via physical movement, but doesn't specifically teach the processing means utilizing a Hidden Markov Model. Nitta teaches, in column 3, lines 1-15, a virtual meeting place with participants being represented as avatars, similar to that of Filo, but further teaches, in column 3, lines 35-40 and column 6, lines 41-50, the processing by knowing the a user exists without actually knowing the users exact position, but rather estimating a position. This process obviously could be implemented by or is actually being implemented with a Hidden

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Markov Model. It would have been obvious to one of ordinary skill in the art, having the teachings of Filo and Nitta before him at the time the invention was made to modify the virtual meeting system of Filo to include this hidden state system of Nitta. One would have been motivated to make such a combination because this allows physical changes without the certainty of user definition.

30. Claims 38 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Filo et al., patent #6,215,498, hereinafter Filo and Sun et al., patent #6,501,740, hereinafter Sun.

31. With regard to claims 38 and 41, Filo teaches, in column 3, line 1 through column 4, line 26, Several users, each being represented by an avatar in the virtual environment, affecting changes in the other users display via physical movement and Filo further teaches, in column 10, line 51 through column 11, line 11, the system detecting a person from outside the environment attempting to connect with a user in a private conversation, to accommodate the user enters into a private phone call mode which disables the audio links to the VCP, and displays a phone icon next to the avatar to the other avatars, but doesn't specifically teach detecting a level of service in the connection between the computers, and modifying the representation of the user to the at least one other party in dependent on the detected quality of service. Sun teaches a teleconference system where conferees can be presented with virtual reality animations (see column 5, lines 50-63), but further teaches the system recognizing the type of connection of each conferee connected to the teleconference, and adapting the signal

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sent to a conferee based on the connection, for example only the audio portion of a signal from a video conference is sent to a conferee connected by a conventional telephone (see column 5, line 50 through column 6, line 34). It would have been obvious to one of ordinary skill in the art, having the teachings of Filo to include the exclusion of the video portion to a participant that doesn't have video capabilities and to display the limited connectivity user with an icon as was done with the phone icon of Filo. One would have been motivated to make such a combination because a participant without video capabilities would be unable to view the presenter anyway.

Response to Arguments

32. The arguments filed on 7-31-2006 have been fully considered but they are not persuasive. Reasons set forth below.

33. The applicant argues that Filo does not teach any means for detecting environmental or physical attributes that impair the ability of a user to continue communication in a currently occurring mode-coupled with means for automatically changing the user's mode of communication so as to accommodate the detected impairment.

34. In response the examiner respectfully submits that Filo teaches, in column 10, line 51 through column 11, line 11, the system detecting a person from outside the environment attempting to connect with a user in a private conversation, to accommodate the user enters into a private phone call mode which disables the audio links to the VCP, and displays a phone icon next to the avatar to the other avatars.

35. The applicant argues that neither Filo nor Nitta teach employing a Hidden Markov Model approach to detect environmental of physical attributes.

36. In response the examiner respectfully submits that using the applicants supplied definition, Nitta teaches determining a physical location of a user using an approximation based on estimating where a talking user is using recognized sound, attempting to ignore extraneous noise, and further relying on lip movements (see column 3, lines 35-40 and column 6, lines 41-50). Here the "state" or "hidden state" is the users location which is determined based on a pattern recognition of the source of sound and lip movement. This process obviously could be implemented by or is actually being implemented with a Hidden Markov Model.

37. The applicant argues that Sun does not teach that "a representation of the user being provided to the other conference parties would be modified in dependence upon the detected "quality of service" of the connection."

38. In response the examiner respectfully submits that Filo further teaches, in column 10, line 51 through column 11, line 11, the system detecting a person from outside the environment attempting to connect with a user in a private conversation, to accommodate the user enters into a private phone call mode which disables the audio links to the VCP, and displays a phone icon next to the avatar to the other avatars. Sun teaches the system recognizing the type of connection of each conferee connected to the teleconference, and adapting the signal sent to a conferee based on the connection,

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for example only the audio portion of a signal from a video conference is sent to a conferee connected by a conventional telephone (see column 5, line 50 through column 6, line 34). It would have been obvious to one of ordinary skill in the art, having the teachings of Filo to include the exclusion of the video portion to a participant that doesn't have video capabilities and to display the limited connectivity user with an icon as was done with the phone icon of Filo. One would have been motivated to make such a combination because a participant without video capabilities would be unable to view the presenter anyway.

Conclusion

39. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

40. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

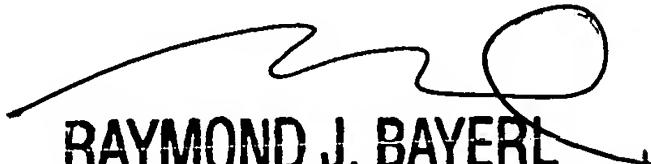
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41. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis G. Bonshock whose telephone number is (571) 272-4047. The examiner can normally be reached on Monday - Friday, 6:30 a.m. - 4:00 p.m.

42. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine Kincaid can be reached on (571) 272-4063. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

43. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

10-3-06
dgb



**RAYMOND J. BAYERL
PRIMARY EXAMINER
ART UNIT 2173**